



Ym2 siRNA (m): sc-155412

BACKGROUND

Mammalian chitinase-like proteins, including Ym1 and Ym2, belong to a family of proteins structurally related to chitinases but are devoid of enzymatic activity. Expressed at low levels in spleen, thymus and bone marrow, Ym1 functions as a lectin (a highly specific sugar-binding protein) that is specific for saccharides with a free amino group, such as galactosamine or glucosamine, and can also bind chitin and heparin with high affinity. Ym1 functions at an optimal pH of 4.5-5. Ym2, also known as Chi3l4 (chitinase-3-like protein 4) is a 402 amino acid mouse protein that is secreted and has low chemotactic activity for eosinophils. Thought to be involved in allergy and inflammation responses, Ym2 is considered to have no chitinase activity and is upregulated in response to IL-4 and IL-13. Both Ym1 and Ym2 belong to the glycosyl hydrolase 18 family and the chitinase class II subfamily.

REFERENCES

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2. Oba, Y., et al. 2003. Eosinophil chemotactic factor-L (ECF-L): a novel osteoclast stimulating factor. *J. Bone Miner. Res.* 18: 1332-1341.
3. Lee, E., et al. 2005. Induction of Ym1/2 in mouse bone marrow-derived mast cells by IL-4 and identification of Ym1/2 in connective tissue type-like mast cells derived from bone marrow cells cultured with IL-4 and stem cell factor. *Immunol. Cell Biol.* 83: 468-474.
4. Garcia-Palacios, V., et al. 2006. Eosinophil chemotactic factor-L (ECF-L) enhances osteoclast formation by increasing ICAM-1 expression. *Ann. N.Y. Acad. Sci.* 1068: 240-243.
5. HogenEsch, H., et al. 2006. Expression of chitinase-like proteins in the skin of chronic proliferative dermatitis (cpdm/cpdm) mice. *Exp. Dermatol.* 15: 808-814.
6. Arora, M., et al. 2006. Simvastatin promotes Th2-type responses through the induction of the chitinase family member Ym1 in dendritic cells. *Proc. Natl. Acad. Sci. USA* 103: 7777-7782.

CHROMOSOMAL LOCATION

Genetic locus: Chi3l4 (mouse) mapping to 3 F2.2.

PRODUCT

Ym2 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ym2 shRNA Plasmid (m): sc-155412-SH and Ym2 shRNA (m) Lentiviral Particles: sc-155412-V as alternate gene silencing products.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Ym2 siRNA (m) is recommended for the inhibition of Ym2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Ym2 gene expression knockdown using RT-PCR Primer: Ym2 (m)-PR: sc-155412-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.